R.08-08-009

Workshop Agenda – RPS Project Viability Criterion

April 7, 2009
Milton Marks Conference Center
Hiram W. Johnson State Building
San Diego Conference Room A
455 Golden Gate Avenue
San Francisco, CA. 94102

Phone Attendees (Listen only)
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Email questions to: ab1@cpuc.ca.gov

Workshop Materials: http://www.cpuc.ca.gov/PUC/energy/Renewables/hot/Project+Viability.htm

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Purpose of the workshop:

- Review party proposals for project viability criterion and their definitions
- Review Energy Division staff's project viability criterion and their definitions
- Discuss project viability criterion for commercial vs. emerging technologies
- Identify areas of consensus

Workshop will not address:

- Other issues identified in the February 3, 2009, ACR (R.08-08-009) regarding renewable energy development in the Imperial Valley and the utility's RPS procurement process.
- Other components of the Energy Division Staff Proposal, which explored how project viability may be integrated into the utility's procurement process, the Commission's contract review and approval process, and the RPS flexible compliance provisions (The Energy Division Staff Proposal was included as Attachment B to the February 3, 2009, ACR).

Workshop Agenda

- Introductions	**9:30 Start**
- Housekeeping	
- Workshop objectives and scope	
- Discuss proposed criterion and metrics for commercial technologies	**10:00 - 12:00**
- *Lunch Break*	***12:00 - 1:00***
- Discuss criterion and metrics for commercial vs. emerging technologies	**1:00 - 2:30**
- Discuss the revised project viability calculator's use and usefulness	**2:30 - 3:00**
- Next Steps	**3:00 - 3:30 End**

Background:

On February 3, 2009, the Assigned Commissioner issued a ruling (ACR) in Rulemaking (R.) 08-08-009 regarding renewable energy development in the Imperial Valley. The ACR also asked parties to comment on issues related to contract failure, and the evaluation and weighting of project viability in the utility's RPS procurement process. Included in the ACR (as Attachment B) was an Energy Division staff proposal that addressed these issues in detail and included a model concept for an RPS project viability calculator. On February 17, Energy Division staff held an informal meeting to provide parties an opportunity to discuss Energy Division's staff proposal, prior to filing comments. At the meeting, parties unanimously recognized the importance of using standardized criterion that is clearly defined.

On February 27 and March 6, parties filed comments and reply comments, respectively. In their comments, parties expanded on the importance of defining the project viability criteria in a manner that is transparent and consistent with RPS objectives. Several parties' proposed specific language. Pacific Gas and Electric (PG&E), Southern California Edison (SCE) and San Diego Gas & Electric (SDG&E) filed modified versions of staff's project viability calculator. The Independent Energy Producers Association (IEP) included in its comments a novel RPS project viability calculator for parties and the Commission to consider. Several parties recommended that staff hold a second workshop to further the development of a project viability calculator. Based on parties comments and reply comments, Energy Division staff revised its project viability calculator, which will help guide today's workshop.

Overview:

Party comments indicate that there are areas of consensus for how the viability of RPS projects should be evaluated.

- Project viability criterion should be standardized and clearly defined
- The results of any project viability assessment will be <u>indicative</u> of a project's probability for success, but not an accurate forecast or guarantee that the project will succeed
- The scoring methodology should use a broad enough scoring range to capture varying degrees of development or risk
- A project viability evaluation tool should accommodate utility judgment and discretion, so as not to disrupt the utilities' inclusive shortlisting approach, from a project viability perspective

A. Criterion and Metrics for Commercial Technologies

- Discuss IEP's proposed project viability calculator (Attachment A)
- Discuss PG&E's proposed project viability calculator (Attachment B)
- Discuss staff's revised project viability calculator (Attachment C)

  Staff revised the model and the criterion based on party comments. Each criterion has a scoring range of zero to ten (0 - 10).

1. Developer Experience Category

a. Project Development Experience

Party proposals

- SCE: Based on years experience of the company and most senior officer/principle
- PG&E: Based on years experience, e.g., 23 years or more achieves max score. Also, PG&E proposed that previous experience with seller, if any, should permit the score to be adjusted up or down accordingly.
- LSA and Stirling: Experience should be representative of key individuals related to the project's development (e.g., project team, company execs, parent company, and major investors)

Staff proposal: Criterion is defined according to the number of projects developed by the company and/or its project development team.

- Strength and weaknesses?

b. Facility Operations & Management Experience

Party proposals

- SCE: Based on years experience of the company and most senior officer/principle. Include facility ownership with O&M experience.
- PG&E: [for commercial operating projects only] Seller must demonstrate at least one project and can achieve max score if more than one project has been financed and the project used the same technology as the proposal.
- CalWEA: O&M experience should not be included because it does not relate to project development *per se*.

Staff proposal: Criterion is defined according to the number of projects the company, or the project's sub-contractor, has experience with.

- Strength and weaknesses?

c. Financial strength

Party proposals

- PG&E: If seller will self-fund the project, the IOU's credit department will assess the sponsor's creditworthiness.

Staff proposal: Criterion definition is based on the financial health of the company and/or its access to capital.

- Strengths and weaknesses?

2. Technology Category

a. Technology Feasibility

Party proposals

- PG&E: Criterion should be defined by "phases" of commercialization, e.g., the technology is in its initial demonstration, or the technology is commercially developed

Staff proposal: Criterion is defined according to the number of similar projects currently in commercial operation.

- Strengths and weaknesses?

b. Resource Quality

Party proposals: None

Staff proposal: Criterion definition is based on whether there is verifiable data that the resource quality is sufficient to support the project.

- Strengths and weaknesses?

c. Contract Price

Party proposals

- GPI: A bid price should generate revenues that are sufficient to support both initial project development, and project operations over the lifetime of the proposed contract.
- SCE: An "indexed contract price" refers to any industry standard cost index or third party administered price-resetting mechanism to the materials and commodities used to construct the generating facility"
- PG&E: A project viability calculator should not include criterion specifically based on price

Staff proposal: Adopt GPI's recommendation. Contract price is considered in the context of whether revenues will cover costs based on industry standard cost estimates or known project development costs.

Discussion

- Should price be included in an assessment of project viability?

d. Permitting Feasibility

Party proposals

- SDG&E: If permitting is identified as a "major concern" the project's overall score should be limited. (SDG&E proposes that a project's score equal three if securing financing, site control or overall permitting is a major concern).
- SCE: For a project to receive a non-zero score, it must obtain the key project development permits, e.g., the conditional use permit or an "authority to construct?

Staff proposal: Technology specific permitting issues should be captured in the project viability calculator and scoring may be based on progress towards permitting the facility.

- Strengths and weaknesses?

3. Project Development Status Category

a. Site Control

Party proposals

- SCE: 100% site control requires that seller obtain 1) direct ownership, 2) a lease, 3) or an option to lease or purchase.

Staff proposal: Criterion is defined according to the CAISO's tariff definition (LGIP), and the level of progress towards achieving site control.

- Strengths and weaknesses?

b. Permitting Status

Party proposals

- SCE, SDG&E: See Section b(iv) above
- PG&E: Scoring based on likelihood of obtaining permits

Staff proposal: Scoring is based on the progress for which critical permits (e.g., conditional use permit or application for certification) have been obtained.

- Strengths and weaknesses?

c. Transmission System Requirements

Party proposals

- PG&E: Scoring based on risk, length of lead time, and cost.

Staff proposal: Criterion should be based on the extent to which transmission network upgrades are required and known.

- Strengths and weaknesses?

d. Interconnection Status

Party proposals

- PG&E: Define criterion by position in CAISO interconnection procedures, or based on utility judgment if interconnecting in another control area.

Staff proposal: Criterion should be defined according to the CAISO's tariff definition (LGIP), or otherwise based on progress towards achieving site control.

- Strengths and weaknesses?

e. Major Equipment Procurement

Party proposals: None

Staff proposal: Scoring is based on the extent to which major equipment has been procured or secured.

- Strengths and weaknesses?

f. Commercial Online Date (COD)

Party proposals

- Sempra: Proposed scoring criterion for the lead-time to a project's commercial online date. Scored on a scale 0-5, with 0-score for COD >5 years out and 5-score for COD within 1 year.

Staff proposal: Adopt Sempra's proposal.

- Strengths and weaknesses?

Staff deleted, or did not adopt the follow criterion:

- RFO (request for offer) Experience

  Rationale: Prior participation in an RFO is not critical for project development.

- Project Financing Experience

  Rationale: This criterion can be subsumed in *Project Developer Experience.*

- Project Development Lead Time

  Rationale: Seller may adjust schedule, if necessary, during the contract negotiation stage.

- Seller Concentration (PG&E and SCE proposed definition)

  Rationale: This criterion is separate from project viability risk *per se*.

- Engineering, Procurement and Construction Experience (PG&E proposed)

  Rationale: This criterion can be subsumed in *Project Developer Experience.*

- Pricing Structure

  Rationale: Requires further discussion among parties.

B. Pre-Commercial Technologies

PG&E proposed to develop evaluate separately project that use pre-commercial technologies. UCS and CalWEA support evaluating the viability of all RPS projects, including those that employ emerging technologies. LSA warns of negative unintended consequences if emerging technologies (including solar) is evaluated differently.

1. Is it necessary and reasonable to differentiate commercial technologies from emerging technologies within the context of assessing project viability?
2. If so, is "emerging" analogous to "pre-commercial", or is it a separate category that should also be distinctly defined?
3. Discuss proposed definition of "pre-commercial" and/or "emerging" technology.
   i. PG&E proposal: technology has not been used to commercially generate electricity at a significant scale (capacity)
   ii. LSA Proposal: Emerging should be defined as 1) projects less than 20 MW, and 2) non-demonstrated projects and projects that are not currently undergoing commercialization.
4. Discuss options for standardizing criterion for pre-commercial and /or emerging technology projects.

C. Project Viability Calculator Methodology - use an usefulness

<u>Discussion</u>

ATTACHMENT A: IEP proposed project viability calculator

IEP
Concept for an RPS Project Viability Calculator

Operational Instructions:
1) Column G. Determine Group Weights. Note: Must sum to 100%
2) Column D. Determine "Within Group Criteria Weights". Note: Must sum to 100%
3) Column C. Score Project Bids on each Criteria within Group on scale of 1 to 100.

27-Feb-06

Grp Weights

Grp 1: Developer Experience	*30%*
Grp 2: Technical/Commercial Via	*25%*
Grp 3: Project Viability	*45%*
Sum	*100%*

[must total 100%]

RPS RFO Evaluation Matrix

Project Viability Criteria		**UTILITY/CPUC *Project Score*** *[Scoring: 1 thru 100]*	**Within Group Criteria Weight (%)**	**Within Group Weighted Score**	**Final "Weighted" Score**
Grp 1: Developer Experience	***Grp Weight***				
Completed Projects Worldwide (#)		30	40%	12	3.60
Project Finance:					
a) Demonstrated finance capacity		50	20%	10	3.00
b) List of Projects Financed		32	5%	1.6	0.48
Construction Team:					
a) Level of Experience (Team, individuals)		75	20%	15	4.50
b) Warranty Assurances		54	15%	8.1	2.43
Total: Grp 1	*30%*	241	100% ***[must total 100%]***		14.01
Grp 2: Technical/Commercial Viability					
Proven Commerical Operation (Up to 500 MWs commercially operabable worldwide)		36	40%	14.4	3.60
Proven Commerical Operation (500 MWs (+) commercially operable worldwide)		20	65%	13	3.25
Other Criteria ?					
a) If not proven commercially operable at 500 MWs or above, declared by CEC to be "commercially viable"		15	20%	3	0.75
b) If not proven commercially operable at 500 MWs or above, declared by CEC to be "Technically Viable" curve		35	15%	5.25	1.31
Total Weighting	*25%*	70	100% ***[must total 100%]***		5.31
Grp 3: Project Viability					
Status/Progress in CAISO GIPR Queue		80	15%	12	5.40
Demonstrated Site Control		75	15%	11.25	5.06
Siting Status:					
Status in CEC Siting Proceding (e.g. secured necessary water supply, air permits, etc.)		40	10%	4	1.80
Status in Local Siting/AQMD (e.g. secured necessary water supply, air permits, etc.)		10	10%	1	0.45
Demonstrated Fuel Availability		80	5%	4	1.80
Transmission Available Today		35	15%	5.25	2.36
Transmission Available within 3 years		48	10%	4.8	2.16
Financiability of Technology/Project		25	10%	2.5	1.13
Project Sponsors Creditworthiness		55	10%	5.5	2.48
Total Weighting	*45%*	285	100% ***[must total 100%]***		14.51
TOTAL Project Score	100%	596			**33.84**

ATTACHMENT B: PG&E proposed project viability calculator

PG&E's Proposed Project Viability Calculator

The Project Viability Calculator quantifies project viability based on key developer, technology, and project development considerations.

Project Viability Criterion	Project Score	Score Range	Scoring Guidelines / Notes
I. Developer Experience			
Total Years of Development Experience		0-10	Score = number of years / 1.5, rounded; If number of years > 15, then score = 10
Project Financing Experience		0-5	0 – no projects financed +1 – financed first project +2 – financed additional projects +2 – financed same technology project
Project Engineering, Procurement, and Construction Experience		0-5	0 – no projects constructed +1 – constructed first project +2 – constructed additional projects +2 – constructed same technology project
Facility Ownership and Operations Experience		0-5	Commercially operating projects only 0 – no projects operated +1 – operated first project +2 – operated additional projects +2 – operated same technology project

Seller Concentration in RFO		0-5	0 – more than 5 projects or 1000MW proposed 2 – 3-5 projects or 600-1000 MW proposed 3 – 2 projects or 400-599 MW proposed 5 – 1 project or <400 MW proposed
Developer Experience Preliminary Score		0-30	Sum
Developer Experience Final Score		**0-30**	- If previous experience with PG&E is **negative**, preliminary score is **halved** - If **no** previous experience with PG&E, score is **Sum** - If previous experience with PG&E is **positive**, score is fixed at **30**

II. Technical Viability			
Technology Development		0-10	1 – technology has been demonstrated in an initial commercial deployment 5 – limited commercial deployments 10 – commercially available, multiple deployments
Project Technical Design		0-10	Technical challenges faced (incl. procuring major components) to achieve proposed **project scale** 0 – multiple, difficult challenges 5 – few, reasonable challenges 10 – insignificant challenges
Technical Viability Score		**0-20**	Sum

III. Project Status			
Transmission Lead Time		0-10	For **LGIP**: 0 – not in transition or serial clusters 5 – in transition cluster 10 – in serial cluster For **SGIP**, score = 10 For **non-CAISO**, use judgment
Network Upgrade or Interconnection: Scope and Cost		0-10	0 – major hurdles (long lead, expensive) 5 – moderate hurdles 10 – minor hurdles (short lead, inexpensive)
Site Control		0-15	0 – no activity or major hurdles 5 – agreements pending 15 – agreements signed
Permitting		0-15	Likelihood of permits being granted (consider environmental, species, cultural, water, etc. issues) 0 – low (significant hurdles) 8 – moderate (manageable issues) 15 – high (issues addressed, permits [likely to be] granted)
Project Status		**0-50**	Sum
Total Project Viability Score		**0-100**	**Sum of Sections I, II, III**

Attachment C: Staff revised draft Project Viability Calculator - Matrix of changes

Refer to the model project viability calculator (PVC.v2) for a complete description of criterion scoring metrics: http://www.cpuc.ca.gov/PUC/energy/Renewables/hot/Project+Viability.htm

Staff PVC Version 1		**Staff PVC Version 2**		
Project Viability Criterion	**Metric**	**Project Viability Criterion**	**Metric**	**Rationale**
Developer Experience	scoring (-1, 0, 1, 2)	**Developer Experience**	scoring (0 - 10)	
Total Years of Development Experience	<5, 5-15, >15 Yrs	Project Development Experience	# of projects developed	Successful project development is a better indication of future success than simply years experience
RFO Experience	yes / no	Deleted		Prior RFO experience is not critical for successful project development.
Project Financing Experience	yes / no	Financial strength of bidder		It is reasonable to consider the bidder's financial strength, given the financial commitment of PPAs. Deleted "Financing Experience" because it is subsumed in "Development Experience"
Facility Ownership Experience	yes / no	Deleted		Ownership experience may be subsumed in "Development of O&M Experience"
Facility Operations Experience	yes / no	Operations & Maintenance Experience	# of projects	
Seller Concentration in RFO	yes / no	Deleted		Seller concentration risk is separate from project viability risk *per se.*
Score Range	**- 1 - 6**		0 - 30	

Staff PVC Version 1		Staff PVC Version 2		
Project Viability Criterion	**Metric**	**Project Viability Criterion**	**Metric**	**Rationale**
Technical Viability	scoring (-1, 0, 1, 2)	**Technical Viability**	scoring (0 - 10)	
Technology Development	Concept/Testing, Minor Install, Major Install	Technical feasibility/ Commercialization risk	Based on # of projects in commercial operation	
		Resource quality	Based on verifiable data, third-party resource assessments	
		Revenue sufficient to cover expected costs	Based on industry standard cost estimates, utility experience	
		Permitting feasibility		
Score Range	**0 - 2**		0 - 40	

Staff PVC - Version 1		Staff PVC - Version 2		
Project Viability Criterion	**Metric**	**Project Viability Criterion**	**Metric**	Rationale
Project Viability	scoring (-1, 0, 1, 2)	**Project Viability**	scoring (0 - 10)	
Turbines, Solar Panels/Thermal, or Transformer Procurement	Major Hurdle yes / no	Major equipment purchases	Based on whether equipment has been purchased, secured or even decided upon	Clarification
Transmission Lead Time	Status of CAISO studies	Interconnection progress	Aligns with CAISO's GIPR LGIP process, or the SGIP	
Project Development Lead Time	Reasonable yes / no	Deleted		Utility can exercise discretion. Also, seller may adjust schedule, if necessary during the contract negotiation stage.
Network Upgrade or Interconnection: Scope and Cost	Major Hurdle yes / no	Transmission system requirements		
Site Control	Status	Level of site control	Based on CAISO GIPR LGIP definition	Transparent and uniform metric.
Permitting	Major Hurdle yes / no	Status of obtaining permits	Based on status of critical path permits	Condition use permit or Application for Certification is critical for development.
Pricing Structure	Indexed to key development cost	Deleted		Requires further discussion among parties.
		Commercial Online Date		The longer the development lead time, the greater the development risk.
Score Range	**0 - 9**			
Total Score Range	**0 - 17**		0 - 60	